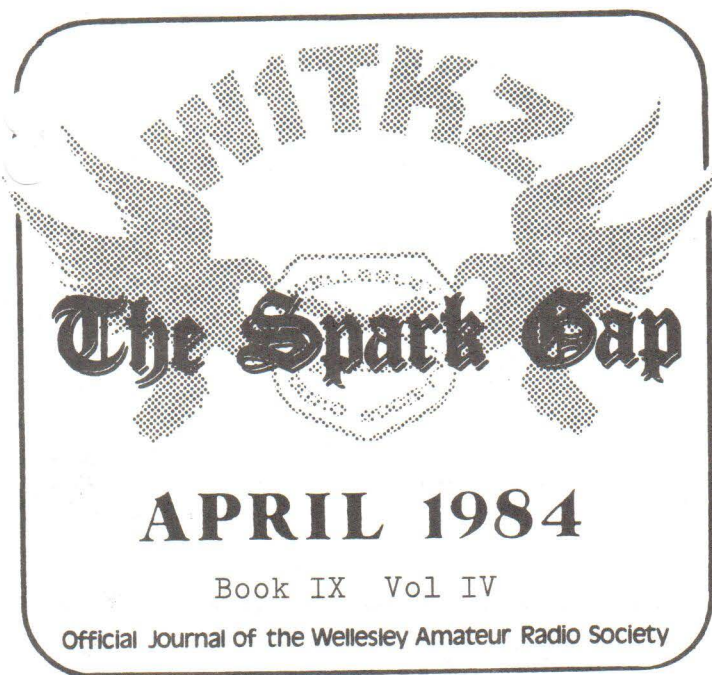




If you have still not signed up, time is running out. Contact Dick Paret, W1ZLQ, at 837-6423.

The final special event this month is the Wellesley Teachers Association Bike-A-Thon on Sunday, April 29. Our job here is to help man the three checkpoints and to help the bikers along the course in any way possible. Several operators will be biking the course equipped for two meter operation. If you would like to help with this event, contact Nels Anderson, K1UR, at 872-5259.

Also, though it's not quite in April, the Charles River Run will once again be covered by a W.A.R.S. radio team during its running May 6. If you would like to help out, contact C.J. McDonald, W1BUM, at 332-6091.

This is going to be a busy month and a fun one. Enjoy it!

President's Message

April is here and with it the start of spring and one of the busiest months on the W.A.R.S. calendar. In addition to our normal two monthly meetings, Sunday night nets, monthly breakfast and informal on-the-air gatherings, the first big activity of the month is the auction on Saturday, April 14. Like last year, it will be held at the Congregational Church right next to the club and we will need help beginning around 9:00 a.m. Check-in will start at 10:00 a.m. and the auction itself at 11:00. The major tasks have been assigned already but we can always use more help to spread the work around. See you there, and don't forget to talk it up so we have a big turnout.

The second big event of the month is the BAA Boston Marathon, only two days after the auction. Patriots Day, Monday April 16 is the date and depending on where you are your day could run anywhere from 6:00 a.m. to 4:00 p.m. This is one of the world's biggest sporting events with perhaps 10,000 official and unofficial runners and usually over a million spectators.

ANNOUNCEMENT

Our speaker at the April 5 meeting will be Rick Beebe, K1PAD, who is the Eastern Massachusetts ARRL Section Manager and New England Division Vice Director. Rick is expected to be coming loaded with up-to-date League happenings from the recent Board of Directors meeting, including information on the the volunteer examiner program. In addition, Rick will be available for questions and answers.

On April 19 we will have a video tape from the W5LFL ham in space mission. You may remember earlier in the year we had a tape previewing the mission before Dr. Garriott went up on the space shuttle. This is a revised version showing what actually happened during the mission and should be very interesting especially for the many of you who tried to contact W5LFL in orbit.

Both meetings are at 7:30 p.m. as usual. See you there.

MEETINGS THIS MONTH:

April 5, 1984, at 7:30 p.m.

April 19, 1984, at 7:30 p.m.

211 Washington St., Wellesley

ELECTRONICS EXCHANGE

FOR SALE: Brand new Icom IC-3AT handi-talkie for 220 MHz. \$200. Call Mike Kiron, N1CGF, at 894-2323.

FOR SALE: GEARVAKf is pleased to announce that it has accepted a sizeable donation of dits and dahs from J.S. Mr. S noticed several years ago that there appeared to be a surplus of dits and dahs, as CW operators were using them at a rapid rate, embellishing and accenting their CW transmissions with several extra dits and dahs in each transmission. With the help of his close friend, together they are collecting the extra dits and dahs and stored them in 55 gallon barrels. They were amazed to find that they had amassed 150 barrels of dits and about 425 barrels of dahs and had no more room in which to store them. They decided to donate the entire amount to GEARFAKf as a tax write off. The dits and dahs are used, but are still in excellent condition, and, as a service to Amateurs, GEARVAKf will soon be making these available to hams in pint, quart, and gallon sizes. It is also anticipated that GEARVAKf will give a barrel of each to five new keyer operators. The dits and dahs are sold with no guarantee. (Thanks K9ZZ in GEARVAKf Bulletin, via ARNS for this information).

Auctions / Flea Markets

April 1: The Framingham ARA will hold its annual spring flea market at the Framingham Civic League Hall on Concord Street (Route 126) in Downtown Framingham. Doors open at 9:00 a.m. for sellers and 10:00 a.m. for buyers. Admission is \$2.00, tables \$8.00. Contact the Framingham ARA, P.O. Box 3005, Framingham, Mass. 01701. Talk in on 147.75/15 and 146.52.

April 7: The Great Bay Radio Association will hold its annual hamfest-flea

market at the Somersworth Armory, Somersworth, N.H., from 9:00 a.m. to 3:00 p.m. Antique radios and computers will be on display. Admission \$1.00. Talk in on 146.52 and 147.00.

April 14: Our own Wellesley ARA at tion. Talk it up!

May 12: Deerfield Hosstraders Swapfest. This is the big one!

May 20: Montachusett ARA Flea Market, at Wallace Civic Center, 1000 John Fitch Highway, Fitchburg, Mass. Doors open at 8:00 a.m. for sellers, 9:00 a.m. for buyers. Tables are \$8.00. Send reservations to Jim Beauregard, KBLAY, 7 Mountain Avenue, Fitchburg, Mass. 01420. Talk in on 144.85/145.45 and 146.52.

"New Tickets"



Congratulations go out to Americo Procopio, ex-KALKHU, who recently received his General class license. Rick is now sporting the callsign N1CZT.

OFFICERS

PRESIDENT:

Nels Anderson, K1UR, 872-5259

VICE PRESIDENT:

David Curry, K1TK, 237-2450

RECORDING SECRETARY:

David Kent, N2AWG, 647-9334

CORRESPONDING SECRETARY:

Allan Bacon, K1BA, 749-4382

TREASURER:

C.J. McDonald, WB1BUM, 332-6091

FUND RAISING:

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OPERATING ACTIVITIES:

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EDUCATION CHAIRMAN:

Art Thompson, K1ENP, 235-5509

STATION MANAGER:

Bob Drapeau, K1TK, 883-1132

REPEATER COMMITTEE:

Tom Kinahan, N1CPE, 899-5924

The Spark Gap

Official Journal of the Wellesley Amateur Radio Society



EDITOR:

NELS ANDERSON, K1UR
92 BISHOP DRIVE
FRAMINGHAM, MASS. 01701
872-5259

THE "SPARK GAP" IS A MONTHLY PUBLICATION OF THE WELLESLEY AMATEUR RADIO SOCIETY. ITS PRIMARY PURPOSE IS TO KEEP ITS MEMBERS ABREAST OF CURRENT HAPPENINGS, FCC RULES AND REGULATIONS CHANGES, AND TO LIST EQUIPMENT OFFERED FOR SALE OR TRADE BY MEMBERS. MEMBERS ARE ENCOURAGED TO CONTRIBUTE TO THE "SPARK GAP" AND MAY SEND THEIR ARTICLES TO THE EDITOR. ITEMS PRINTED IN THE "SPARK GAP" MAY BE REPRINTED BY OTHER AMATEUR RADIO PUBLICATIONS PROVIDED THE AUTHOR AND THE "SPARK GAP" ARE GIVEN CREDIT.

THE WELLESLEY AMATEUR RADIO SOCIETY IS A NON-PROFIT ORGANIZATION DEDICATED TO THE PROMOTION OF AMATEUR RADIO THROUGH INSTRUCTION, FELLOWSHIP, DEMONSTRATION, AND ENCOURAGEMENT OF PARTICIPATION. ANNUAL MEMBERSHIP IN THE SOCIETY IS \$8.00. THE CLUB YEAR RUNS SEPTEMBER 1 TO AUGUST 31. AMATEUR NOVICE AND GENERAL CLASSES ARE CONDUCTED REGULARLY AT NO COST. TO ENROLL IN A CLASS, OR GAIN INFORMATION ABOUT THE SOCIETY IN GENERAL, WRITE:

THE WELLESLEY AMATEUR RADIO SOCIETY
211 WASHINGTON STREET
WELLESLEY HILLS, MASS. 02181



MINUTES

Meeting of March 1, 1984:

The meeting was opened at 7:37 p.m. by President Nels Anderson, K1UR, with 15 present.

The Treasurer's report was given.

Tom Kinahan, N1CPE, gave a report on the repeater status. It was reported that we have already received some donations for the transmitter upgrade.

Erik Thoresen, K1OGF, brought up Field Day. After discussion, it was decided to return to the Town Hall lawn again this year.

Volunteers were requested for the Charles River Run (contact WB1BUM), the Wellesley Teachers Association Bike-A-Thon (contact K1UR) and the

Boston Marathon (contact WALZLQ).

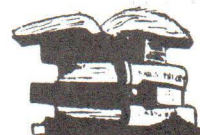
Kevin Kelly, W1YHV, spoke on the subject of the auction. He assigned people at the meeting to most of the main auction jobs.

A report was given on the breakfast meeting held the previous Sunday which five people attended.

Allan Bacon, K1BA, reminded everyone about the rig clinic to be held at the next meeting.

The meeting was closed at 8:14 p.m.

education corner



Don't forget, the deadline for the May FCC exams is April 15. If you are planning on taking a test in May, you must have your form 610 into the FCC by that date.

NEW CLUB MEMBERS

This month we would like to welcome back two old club members after a long absence. They are John McReynolds, W1WDE, of Wellesley and John Schide, W1BUV, of Natick. It's good to see you guys again and we all hope you enjoy your membership. Our membership now stands at 96.

Hamnews

Rick Palm, K1CE, interviewed Tom Griffiths of Denali National Park for information on the disappearance of Naomi Uemura, JG1QFW, on the slopes of Mount McKinley, Alaska. Uemura was the first explorer to reach the North Pole solo in March 1978 (QST, September 1978).

On February 12, (Uemura's 43rd birthday), he became the first man to reach the summit of Mt. McKinley alone in the winter. ARRL sent a telex to JARL Hq. expressing our concerns for the missing climber. We hope to run a tribute to this famous Amateur in May QST.

ARRL Letter, March 15, 1984

RIG CLINIC

On Thursday, March 15 instead of our regular meeting we held a rig clinic. With the help of Allan Bacon, K1BA, Mike Kiron, N1CGF, and Erik Thoresen, K1OGF, equipment and expertise was available to fully test out any VHF/UHF FM rig.

The first test was for purity of transmission. This involved the use of a spectrum analyzer which, at \$30,000, is something not found in the average ham shack. With this instrument, which is a little like an oscilloscope, it was possible to observe the rig's primary frequency and all harmonics and compare them for harmonic suppression. The only problem with this set-up was the proximity to the transmission towers in Needham made it impossible not to pick up Channel 2, etc. in addition to the desired signals.



N1CPE, K1BA, WB1BUV, N1CGF, and K1KN look on as a rig is under test

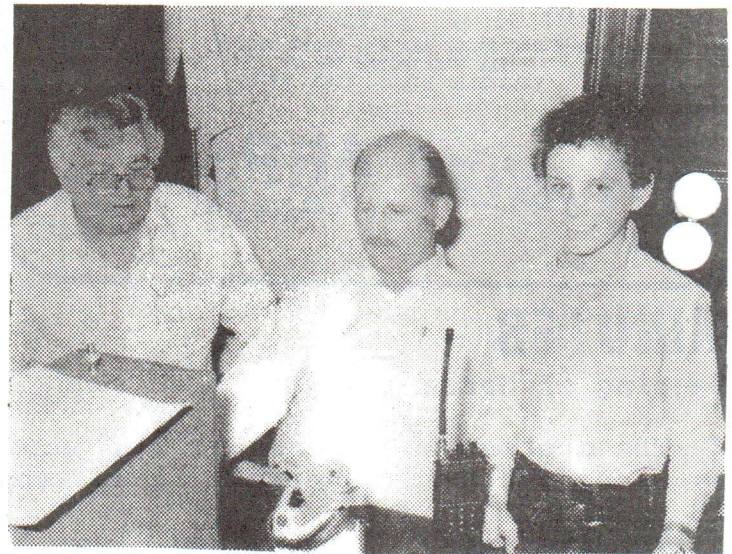
At the same test station transmitter power output was tested and most rigs were found to give as much or more power than rated.

The next test was for deviation.

Most equipment should be in the 4-5 kHz range and as it turned out, most rigs tested were. It was interesting to note that on rigs equipped with Touch-Tone pads, the tones generated were of much lower deviation than voice transmissions. Most Touch-Tones were in the 1-3 kHz deviation range.

The same test station was set up to test transmission frequency. Most rigs were within a few hundred Hertz of where they should have been.

The final test was receiver sensitivity. Using a variable signal source, measurements were made of the receiving threshold (the weakest signal that could be heard at all) and the amount of signal required for 20 db of quieting (full quieting). Very little difference was found in the various rigs tried and all were quite sensitive.



W1YHV, K1OGF, and K1JWE watch the spectrum analyzer in action

The end result of the evening was that every one of the many people who brought rigs to be tested went home with a summary sheet detailing their rig's performance in all areas. In addition, this was the first exposure to some of these pieces of test equipment for some people so the evening was a learning experience as well.

The circuit diagram shows an MC1308P op-amp configured as a voltage follower. The non-inverting input (pin 3) is connected to a voltage divider consisting of a 10k resistor and a 1000 resistor, both connected to a 5V supply. The output (pin 1) is connected to the inverting input (pin 2). The output is also connected to a load consisting of a 33μH inductor in series with a parallel combination of a 150pF capacitor and a 24V source. A 2μF capacitor is connected between the output and ground.

--R.F. Carrier, Dayton, Ohio

--R.F. Carrier, Dayton, Ohio

You know how every time the city works on the water pipes it loosens up a lot of rust. Well, the same thing happens when the electric company works on the lines, and they are not always careful to drain off before putting the line back in service. So, it's up to you to protect those tubes and diodes from getting all clogged up.

To filter your electricity, run the hot lead through an ordinary quart fruit jar. Empty the jar when the sediment is one-fourth full, sometimes referred to as three-fourths empty. The electrons will jump straight across the jar but the sediment, because of its greater weight will fall to the bottom. Caution: avoid breathing the filter dust, especially if you have an asthmatic condition.

EVENTS

The Sunday evening nets continue to go well as we reach half a year of operation during April. We have had several new check-ins during the month of March and we would like to hear from more of you. The nets are every Sunday night, 7:00 p.m. on 147.63/03.

IARU President Dick Baldwin, W1RU, attended the First Session of the World Administrative Radio Conference for High-Frequency Broadcasting held in Geneva January 10 - February 11. Baldwin said of the conference, "There were no decisions adverse to the Amateur Radio Service. The conference adopted a resolution which urged broadcasters not to operate in bands allocated to other services. It passed a resolution urging administrations to take steps not to create harmful interference. And it adopted a tentative agenda for 1986 which includes the statement that broadcasters should stay within their allocated bands." If adhered to, these items would benefit the Amateur Radio Service.

A name in the news these days is William Wilson, who has been nominated to serve as U.S. Ambassador to the Vatican. Southern California Amateurs know him better as K6ARO. We're well represented in the Ambassadorial ranks: Our ambassador to Burundi is N4HX, who is operating as 9U5JB -- a callsign that was much in evidence during the ARRL's DX contest.

5

Mass. QSO Party

The Massachusetts QSO Party will be held again this year. The starting time will be 1600Z on April 28 and the end at 2400Z April 29. The objective is to contact as many other states and Massachusetts counties as possible and for out-of-staters to contact as many Massachusetts hams in as many counties as possible. The exchange for Massachusetts stations is signal report and county and for others signal report and state. For further details and the address to send your entry to, check the April QST.

If you would like to operate W1TKZ during the QSO Party, the station will be available. Please contact station manager Bob Drapeau at 883-1132.

REPEATER

by Tom Kinahan, N1CPE

The repeater has now been stable for about two weeks, and it's time to let you know what has been going on. Thanks to some excellent work by Mike, N1CGF, and Al, K1KN, the transmitter has been made somewhat reliable. However, we anticipate that it's likely to fail again and that it is time to start thinking about another transmitter. We are looking into different solutions to this problem, the best of which is to totally replace the current transmitter with something more reliable and with the capability for about 100 watts out.

Soon after the transmitter was fixed, the computer controller seemed to be having trouble with AC line spikes. The computer would just stop working and the repeater would go off. Nels, K1UR, made a trip to the repeater to install an AC line filter into the computer controller power supply, and it seems to have solved the problem.

Recently, the receive site seems as though it has seen some problems. It seems as though squelch appears continuously variable, sometimes it hears

random noise, and other times it is just too tough to get into. This problem is on the fix list after the transmitter site.

The last we heard from the Newt - Wellesley Hospital, they were going through with the long ago planned roof construction this spring, which means this is our only chance to get a tower up on the transmit site for many years. If they really mean it this time, we are going to have to get some tower sections and some muscle to do some work there.

Thanks to all of you who donated to the repeater fund, I hope the donations keep coming in.

Thanks and 73.

Hamnews

Wayne Green, W2NSD, has requested a Part 97 rules change to make biennial retesting of Morse Code proficiency mandatory. The publisher of 73 Magazine also requests that hams be required to increase their code ability to 35 WPM by a factor of a 5 WPM increase each testing period.

The Commission, in confirming receipt of the request, said that Green proposes that those who fail one of these tests be allowed 60 days to demonstrate the needed ability or turn in his license.

In his petition, Green cites the overwhelming opposition to a No Code Amateur license, plus the statements of many Amateurs in their commentaries on the matter that the Code is essential for the U.S. Amateur service.

The request contains no "grandfathering" clause, and the proposal is expected to receive a proposed Rule Making Number shortly.

Westlink Report, February 24, 1984

ARRL officials have been conducting informal talks with NASA representatives regarding possible future Amateur Radio operations from the space shuttle. Astronaut Tony England, W0ORE, is scheduled to fly a shuttle mission in March 1985. There is the

possibility of another ham flying shortly after that mission. Current talks suggest that the project will most likely be a refined version of one from STS-9, with operations concentrating on 2 meter FM. A 10 meter FM or CW mode could be added if NASA engineers discover a means of feeding a signal through the bulkhead of the shuttle to an antenna to be located in the bay. Nothing has been officially decided at this time. The first step will be for ARRL to draft a formal proposal and present it to NASA. Suggestions for consideration should be forwarded to Peter O'Dell, KBLN, at ARRL Hq.

ARRL Letter, March 15, 1984

UoSAT-B was successfully launched from Vandenberg AFB on March 1, 1984, at 1959Z. Following the deployment of the Landsat-D satellite, UoSAT-B (now called UoSAT-2 or UoSAT-OSCAR 11), separated from the launch vehicle at 2111Z. Initial telemetry indicated that the spacecraft was functioning nominally. However, on the second day orbit, the spacecraft became silent, and the command station at the University of Surrey (England) was unable to command the satellite. Reports indicate that the beacons are on, but at a very reduced power output (on the order of a few microwatts). In order to hear the beacons, an antenna array capable of moonbounce communications must be used.

Harold Price, NK6K, reports that attempts to command the satellite using the 1.2 GHz uplink have been going on, but without success. Orbital predictions from Phil Karn, KA9Q, have been corrected to compensate for Doppler shift. One of the problems with the orbital predictions is that there is a bit of confusion as to whether the elements are based on the Landsat or UoSAT satellite.

The command group has been using Chip Angle's (N6CA) station, running 160 watts into a 340-element array, for about 60 kW EIRP. These command attempts will continue after the

tracking problem is sorted out.

ARRL Letter, March 15, 1984

A re-evaluation of the retransmission of Amateur communications by the broadcast media will shortly begin in a joint project between the FCC's Mass Media and Private Radio bureaus. The thrust of the work will be to untangle the regulations governing such use of ham transmissions with an eye towards simplifying and clarifying the rules.

Since the U.S. invasion of Grenada last year, the media has been highly critical of the FCC prohibitions against using Amateurs as an interactive news source and seek wider latitudes in their use. A Notice of Inquiry is not expected in this matter.

Westlink Report, March 9, 1984

The Anchorage ARC and four other ham radio organizations have been named as the first 5 Volunteer Examination Coordinators (VECs).

The announcement took place on February 23 while this reporter was on the telephone with John B. Johnston of the FCC in Washington.

The other four named are: Dayton ARA, Metroplex ARS, DeVry ARS and the Director of MARS in Puerto Rico.

Signed agreements have already been returned to the Commission by the Anchorage and Metroplex groups.

Westlink Report, March 9, 1984

Elections

Election time for our 1984/85 officers is approaching. The final day for nominations will be the meeting on April 5. Nominations should have closed the last meeting of March but due to the absence of the election committee chairman and the fact that no business meeting was held that night due to the rig clinic, the nominations have been extended. Please think about who you would like to see running the club next year. Don't forget, you can nominate yourself and you are certainly encouraged to volunteer to help the club in this way.

The Spark Gap



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